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CACTUS AND SUCCULENT JOURNAL

Of the Cactus And Succulent Society Of America

Vol. XIII MAY, 1941 No. 5

FIG. 26
Sedum spectabile grown as a pot plant in Florida.
Courtesy *National Horticultural Magazine.*

CACTUS AND SUCCULENT JOURNAL

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PRESIDENT'S MESSAGE

At a meeting held on Sunday, May 4th, the Southern California Cactus Grower's Association appointed Carl Hagenberger as its delegate to the First National Convention of the Society and to care for and explain the exhibit which they intend to stage at the Missouri Botanical Gardens during the Convention.

Mr. Hagenberger is so well known to dealers throughout the East and Middle West as the pioneer dealer in succulent plants that his presence at the convention should attract many dealers who would not otherwise have attended.

We have asked Mr. Hagenberger to preside at the dealers' meetings, where their problems will be discussed and difficulties cleared up.

Mrs. Bakkers of the Knickerbocker Nursery at San Diego has presented to the Convention very attractive badges for the identification of delegates.

In the next issue of the JOURNAL we will publish the description of a most interesting new genus, new species of cactus of the miniature type. The plant will first be shown at the Convention. Also the June JOURNAL will have as a center insert a souvenir program of the Convention, listing the many intellectual and visual delights in store for the delegates and visitors.

To clear up a misunderstanding, it may be stated that the delegates to the Convention are appointed by the various affiliates to represent their interests at the Convention. But the attendance is not limited to delegates and we hope to see as many of our members as possible.

Guests of members are welcome to participate in the meetings, but without voting privilege. They are also welcome to participate in our trips, luncheons and the banquet.

On Friday, July 4th, members, delegates and their friends will register at headquarters in the Chase Hotel, and at noon assemble for luncheon as guests of the Missouri Botanical Gardens, after which an organization meeting will be held and committees appointed.

At 2:30 we will hear prominent botanists tell us of the life of Dr. Engelmann and discuss that knotty problem of nomenclature.

At 8 p. m., we will meet as guests of the St. Louis Horticultural Society in the Medical Auditorium of Washington University. Mr. Harry Johnson will be the speaker, illustrating his talk with colored slides. Mrs. Gertrude Webster, founder of the Desert Botanical Garden, near Phoenix, Arizona, will tell us of the remarkable accomplishments of the Garden. Should time permit, other informative addresses are tentatively scheduled.

On Saturday, at 10 a. m., we will hold a short business session at the Missouri Botanical Gardens and then embark in busses for a sight-seeing trip, ending at the Seiloff Horticultural establishment, where luncheon will be served. This will be followed by a meeting at which we will hear other stimuating speakers.

At 6:30 p. m., a banquet will be served at the Chase Hotel. This is to be followed by a meeting open to the public at which Mr. Lad. Cutak and his colored slides will be featured. Such interesting subjects as Desert Conservation and other pertinent topics will be discussed by Mrs. M. T. Starkweather, President of the Tucson Desert Garden Club, and others.

Sunday morning will see the conclusion of the Convention, and the tired but happy delegates, members and friends, will depart with lasting impressions of a most enjoyable time with kindly and understanding fellow cactophiles.

The Chase Hotel is our official headquarters, and we urge all of our delegates, members and their guests, while at the Convention, to make this beautiful hostelry their home.

Reservation cards will be mailed by me on request.

W. TAYLOR MARSHALL,
327 N. Ave. 61, Los Angeles, Calif.

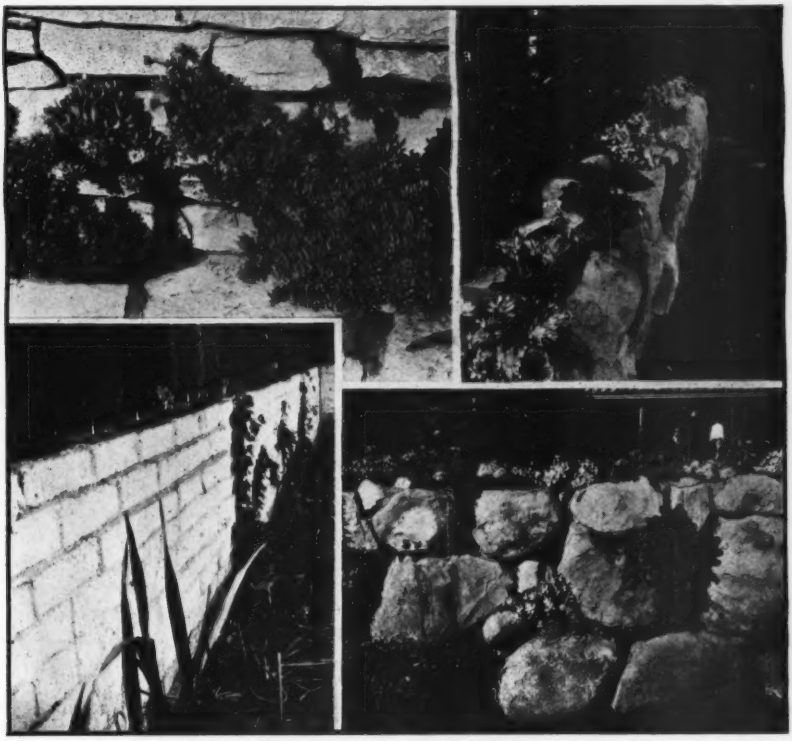

FIG. 27
Wall plantings of Sedums. TOP LEFT: Crevice plantings of *Sedum guatemalense, S. compressum,* and other succulents. TOP RIGHT: Pockets made on top of a limestone wall is ideal for Sedums with their colorful foliage. LOWER LEFT: The hollow brick wall comes ready-made with pockets for plants. LOWER RIGHT: *S. Stahlii* contrasts with the golden *S. Adolphi.*
(Haselton photos)

The Hardiness of Sedums

By C. LANSING SEYMOUR, New York

EDITOR'S NOTE: While visiting the Waltham Field Station of Massachusetts State College we were interested in the rock garden planting of Sedums which survived the severe New England winters. Through the kindness of Mr. George Gravis we contacted Mr. C. Lansing Seymour who was kind enough to furnish the accompanying list of hardy Sedums. Dr. R. W. Poindexter expresses his views as follows,

"I consider Mr. Seymour's article on Sedums a most excellent one. Here is a group of plants which can be grown outdoors by all your subscribers who live in places too cold for the majority of cacti. I have only one comment to make on Mr. Seymour's article in which he states that, 'these plants suffer in Southern California from insufficient care.' In line with my experience, the difficulty is simply that they, in common with many other species from cold climates, miss the freezing winters which give them a chance to rest, a condition which is widely recognized by California gardeners not only in such items as *Sempervivums,* but in many other herbaceous and woody plants not related to succulents."

A few preliminary comments are pertinent to a listing of Sedums for hardiness. Scientific classification is one thing, practical values are another. Out of the record of experience, each plant lover or student of a genus must speak for himself.

Flourishing Sedums are more sturdy and enduring than poorly developed plants. Many plant growers and even experienced horticulturalists carry the impression that because Sedums are succulents, drought-resistent and exceedingly tenacious of life, they thrive best under arid, hot or starved conditions. This is a mistake. Though Sedums are succulents, they are not Cacti and should not be treated as such. While they will live, often indefinitely, in difficult surroundings, they will not be at their best and will suffer correspondingly during the rigors

FIG. 28. *Sedum guatemalense,* flowering shoot.

of winter. It is well known that Sedums must have good soil drainage. This is primary to success with them. A great many of them will damp off or die from puddling or too prolonged wetness of the roots. But given perfect drainage, they prosper best when rains are fairly frequent and the soil has good plant food values. My most effective results in the matter of thriving plants have been accomplished in sandy loam, sloping to carry off excess water, during summers in the Vermont mountains when there were fine rains once a week. While in southern California in the early fall three years ago, I visited numerous gardens and nurseries. I came away with the opinion that many common Sedums, which grow splendidly in the east, were greatly retarded by the dry season and by relative neglect arising from the misconception that Sedums do not need ordinary attention. Assuming well-drained and fertile soil, their most apparent need was for more frequent wetting. It should be understood of this genus, as it is of so many others, that the health of the plants is a real factor in winter endurance.

The matter of climatic location is also important. A great many Sedums will endure the most strenuous winters. Many others will be damaged relative to winter severity. With this latter group, hardiness increases in milder climates. When my plants were moved from the Green Mountains, where steady, solid winters were the rule, to the southern shore of Lake Ontario, where temperatures were moderated by lake breezes, the endurance of my more delicate Sedums averaged noticeably upward. Climatic location should be read into any listing that is to be for practical purposes. There is a difference, also, between frost, on the one hand, and freezing, snow and ice on the other. Irrespective of how they are classified for winter hardiness, *all* Sedums in the accompanying lists have proved to be frost resistant. It is possible that in areas where frosts are very rare some of them may have developed local susceptibilities in a borderline situation. But in sections where they have been inured to frosts, they should all stand heavy ones and any amount of them.

Sedums common to Mexico and Central America are classed as tender. I have wintered many of them in greenhouses and have found them to respond excellently to planting out for the summer. Their blooming time, however, is usually in the winter months; and though a few of them can be successfully grown in the South West, such as *S. pachyphyllum, S. palmeri, S. praealtum* and others, they are not practical for outdoor use elsewhere.

There are also a number of species of Sedum, some of which are in the trade, that are very difficult to grow away from their native habitat. Many who have experimented with them, though their hardiness may be a matter of botanical record, have found that in the practical sense it is relative to adaptability. This applies particularly to the Rhodiola section of the genus, most species of which are native to Yunnan and the Himalayas; and to a number of species native to the Sierra Nevada Mountains with which success in the east is indeterminate and usually only occasional. The few of these included in the lists are mentioned in the light of this comment.

In the following classification, the naming is arranged for usefulness,—to help the average individual to identify his plants. Some of the primary names may not be botanically correct for this reason. In the parentheses appear secondary varieties and many names which have a trade significance only, also to assist in the problem of identification. The standard is a rigorous winter. The reader must estimate the advantages or the disadvantages of location.

HARDY SEDUMS

THOROUGHLY HARDY LOW GROWING

Sedum
- *acre (acre aureum, acre elegans, acre minor, exifidium)*
- *acre minus*
- *album (hypericum, laconicum, orbicularis, stellaris)*
- *album athoum (album virens, balticum)*
- *album muralis*
- *album tenuifolium*
- *anacampseros*
- *anopetalum*
- *ellacombianum*
- *ewersii*
- *ewersii homophyllum*
- *floriferum (ochroleucum)*
- *hayesii*
- *hybridum*
- *kamtschaticum*
- *middendorfianum*
- *middendorfianum diffusum*
- *nevii* (likes a little shade)
- *populifolium*
- *reflexum (acutifolium, collinum, elegans, elegans compacta, reflexum minor, reflexum semperflorens, virens)*
- *reflexum crestatum*
- *sarmentosum*
- *sexangulare*
- *sieboldii*
- *sieboldii variegatum*
- *spurium*
- *spurium album (oppositifolium)*
- *spurium coccineum*
- *tatarinowii*
- *ternatum* (likes a little shade)

TALL VARIETIES

Sedum
- *aizoon (euphorbioides, laggeri, maximowiczii, woodwardii)*
- *alboroseum*
- *alboroseum variegatum* (commonly sold as *Spectabile variegated)*

Sedum (continued)
- *maximum*
- *maximum atropurpureum*
- *spectabile*
- *telephium (borderi, fabaria, purpurescens, telephioides*)*

HARDY: SUBJECT TO DAMAGE ALL LOW GROWING

(Very Slight Damage)

Sedum
- *altissimum (arboreum, cruciatum, nicaense)*
- *lydium*
- *rupestre (forsterianum, pruinatum· foresterianum, rupestre minor)*

(More Damage)

Sedum
- *alberti*
- *brevifolium* (must have very dry roots)
- *brevifolium quinquefarium* (rare)
- *dasyphyllum (dasyphyllum glanduliferum, dasyphyllum macrophyllum, dasyphyllum suendermannii)*
- *douglasii*
- *gracile*
- *hispanicum* (Annual form, *bithynicum, coloniensis, dricuoris, glacum, pallidum)*
- *hispanicum minus (callichronum, lydium glaucum)*
- *monregalense*
- *nevii beyrichianum* (rare)
- *oreganum*
- *oreganum purpureum*
- *pulchellum*
- *stenopetalum* (small form)
- *stoloniferum*
- *stribrnyi*

There is always a good residue and damages are easily repaired in the Spring.

HARDY: BUT USUALLY DISAPPEAR ALL LOW GROWING

Sedum
- *acre majus*
- *anglicum*
- *anglicum minus (Pittoni)*
- *gypsicolum* (rare)
- *hirsutum* (rare—must have very dry roots)
- *lineare*
- *lineare variegatum*
- *lineare robustum*
- *magellense* (rare)
- *pruinatum* (rare)
- *pruinosum* (rare)
- *stenopetalum* (large form)

These should winter more satisfactorily in mild localities.

NOT WINTER HARDY: BUT WILL STAND FROST LOW GROWING

Rhodiola, Linn.

Sedum
- *guatemalense*
- *mexicanum*
- *moranense*

HARDY: BUT DIFFICULT TO ADAPT WILL WINTER, IF SUCCESSFULLY GROWN LOW TO MEDIUM GROWING

Rhodiola Linn.

Sedum
- *crassipes*
- *praegerianum* (rare)
- *rhodanthum*
- *roanense (Rhodiola roanensis)*
- *roseum (Rhodiola rosea)*

WESTERN SEDUMS

Sedum
- *divergens*
- *jepsonii*
- *obtusatum*
- *purdyii*
- *spathulifolium (Cape blanco, oreganii, ornatum, spathulofolium atropurpureum, yosemitense)*

**Sedum telephium* Linn. while resembling *Sedum telephioides* Michx., does not come from the same habitat as *S. telephioides*. The latter is an American sedum, coming from south Pa., to west N. Y., to south Ind., N. C., and Ga., while *S. telephium* comes from Europe, Japan, and Siberia. E. R.

NOTES FROM THE CACTUS AND SUCCULENT CLUB OF CHICAGO

This month's meeting was held at the home of our President, Mrs. Hunter, 8954 Oglesby Ave., who has a fine collection of 400 or more cacti and succulents, including a complete collection of the genus Ariocarpus. Our Treasurer, Mr. Robert Van Tress, junior horticulturist at Garfield Park, gave a lesson on "Morphology," as written by our National President, Mr. Marshall. He illustrated his talk with various plants from Mrs. Hunter's collection.

Dr. G. S. D'Aston presented a special "Beginner's Lesson in Potting Cacti and Succulents." In this he was most ably assisted by Mrs. E. Radden, who asked questions of particular interest to the amateur.

Our April "Bulletin," consisting of nine pages, was presented to each member. Our editors are always glad to receive interesting and instructive material for publication. Write them:

Dr. G. S. D'Aston, 3512 W. Fulton Ave., Chicago. Nevada 8004.

Mr. Frank Kranz, 6846 So. Elizabeth St., Chicago. Wentworth 0177.

MRS. HARRY N. OSGOOD, *Corresponding Secy.*

St. Louis Will Welcome You

It was on the evening of February 14, 1764, that a little band of French pioneers first landed on the west bank of the Mississippi River, at what is now the foot of Walnut Street in St. Louis. For many days, patiently fighting the current, they had poled and dragged their heavy craft up the great river from Fort DeChartres, sixty miles below. Wearied by their labors, they slept that night on their boat. Like the landing of the Pilgrim Fathers, the coming of this "First Thirty," as they became known in colonial days, proved a milestone which marked the beginning of an empire.

The Cactus and Succulent Society of America, another band of Pilgrims, will land on the west bank of the "Father of Waters" to open the first National Convention July 4th and 5th.

The building of this great Middle Western Metropolis was started on the morning of February 16, 1764, when August Chouteau, leader of the "First Thirty" led his men across the sandy beach and up the plateau overlooking the river, pointing out to them a line of blazed trees. The ringing blows of axes soon sounded through the woods, and the building of St. Louis began.

Those were indeed pioneer days, days when three European powers, England, France and Spain, contended for a continent. Other expeditions, French and Spanish soon sought to overshadow the little settlement of St. Louis. But so well had the site been chosen and so energetically had the Founders labored that these competitive efforts gradually merged with St. Louis itself.

Within three years its colonists, by sheer force of spirit, had established valuable fur trading monopolies with the twenty-eight principal Indian nations. Within five years, the fur trade of St. Louis had grown to the amount of $80,000 annually—a great sum in those days.

Each year thereafter saw the city's radius of influence lengthen. St. Louis became the gateway of the stream of migration, the starting point of expeditions in all directions. Some were military, to establish forts; some scientific to explore and to exploit; more were to establish communities to open commercial avenues. The Lewis and Clark Expedition in 1804, opening the Northwest, was one of these.

So, too, the Frenchmen of St. Louis paved the way for the American occupation of Louisiana. A branch of the Chouteaus started Kansas City. Robidoux of St. Louis established St. Joseph. One of the Menards founded Galveston. A hundred western cities and towns owe their beginning to St. Louisans.

The year 1811 marked the appearance of the Mississippi steamboat. Five years later, the first steamboat came up the river, and for a half century thereafter, river trade grew by leaps and bounds.

In 1861 came the Civil War. Missouri, on the borderland between North and South, suffered most cruelly, more than one-tenth of its battles being fought upon Missouri soil.

St. Louis today, one of the most modern commercial cities in America, still has its background of more than a century of historical events. No visitor in St. Louis is ever at a loss what to do or what to see. Members of the *Cactus and Succulent Society* who visit St. Louis next July will enjoy seeing the Art Museum, Cahokia Mounds, Chain of Rocks Park, the Confederate Memorial, the Dent House, Eads Bridge, Forest Park, Grant's Log Cabin, Jefferson Memorial, the Lindbergh Trophies, the Old Court House, "Ol' Man River," Shaw's Garden (Missouri Botanical Gardens), St. Louis Municipal Airport, Zoological Gardens, and many other outstanding attractions.

The St. Louis Zoo, by the way, is one of the world's most famous Zoos. This Zoological Garden is not only an interesting feature, but a vast educational institution. Likewise, it is known as a model for the care of wild animals. Experts concerned with the captivity of wild animals have come to St. Louis from all parts of this country and abroad to study the ideal methods

FIG. 29. Olive Street canyon, St. Louis

used here, and particularly to examine the unusual arrangements by which the animal dens and paddocks have been transformed into near-to-nature haunts.

The Zoo occupies 77 acres in Forest Park. Its more than 1,964 living creatures, including mammals, birds, fish, reptiles and amphibians, have been collected from all parts of the globe. Here are to be seen the famous "cageless" bear pits, erected at a cost of more than a quarter of a million dollars; the new monkey house, filled with simian life of every description, where trained monkeys solemnly go through their amusing antics every afternoon; the largest steel-enclosed bird cage in the world, with its fascinating variety of bird life; the swan lakes, peopled by a strange world of swimming birds, and which also serves as a sanctuary for passing flocks of wild ducks and geese on their migrations; the new reptile house; and Peacock Valley, with its chain of thirteen lakes teeming with aquatic life. An aquarium to cost $400,000 is soon to be added.

Huge steel and concrete structures house a comprehensive collection of wild animals such as lions, tigers, leopards, and the other great cats; while in similar buildings, especially planned, are to be seen the massive elephants, hippopotami and other creatures. Deer of many varieties, and roving animals of a hundred species are confined in ample, steel-fenced yards. Thousands of people throng this Zoo, for its sights are so interesting and so unusual that its attractions never grow old. Here, on Sunday afternoon, parked automobiles from a dozen states are often seen.

When you visit the Zoo in Forest Park, you will also want to see the Jefferson Memorial, an imposing marble structure in the same park which stands on the site of the main entrance of the World's Fair. Here one can see relics of the Mound Builders—whose faces no white man ever saw; curios of the Indian tribes who traded with the founders of St. Louis; original manuscripts of the French and Spanish days in Missouri; relics of the pioneers and of the Revolutionary, Mexican, Spanish-American and World Wars; and ancient records of Missouri courts.

Many of the manuscript records of the Lewis and Clark Expedition repose in the display cases. The letter of credit given to Lewis and Clark is the only one of its kind ever given by a President of the United States to an individual. It carried the credit of the United States Treasury for expenditures incurred.

Among the Exhibits in the Memorial and of supreme interest today, is the complete showing of the famous Lindbergh collection, including gifts, medals, trophies and souvenirs from a score of foreign countries and from thousands of sources. This collection occupies one entire wing of the building. Colonel Lindbergh is a loyal St. Louisan and has chosen the Jefferson Memorial, with the Missouri Historical Society as custodian, as the permanent resting place for the Mementos which have come to him in connection with the epoch-making flight of the "Spirit of St. Louis" across the Atlantic, and his friendship tour of the countries of Mexico, Central and South America.

We are fortunate to have the cooperation of one of the world's largest gardens. Founded in 1860 by Henry Shaw, a St. Louis philanthropist, the Missouri Botanical Garden, popularly known as Shaw's Garden, ranks second only to the famous Kew Gardens of England. It contains the largest collection of plant life in the western hemisphere, and is famous the world over for its wealth of botanical species and its beautiful floral displays. It comprises a city garden of about 75 acres, an out-of-town extension of more than 1,600 acres and a tropical extension at Balboa, Panama.

At the city garden, large conservatories are maintained, containing a varied collection of tropical plants and providing for an almost continuous display of chrysanthemums, orchids, lilies and other blooming plants.

Out of doors are to be found representative gardens of roses, irises, water lilies, and collections of every

FIG. 30. Pandas which are a feature at the world famous Zoological Gardens in St. Louis.

other kind of plant which can be grown in the region of St. Louis. The orchid and chrysanthemum shows have established national reputations for the gorgeousness and rarity of their blooms, and for the beauty and method of their display. Altogether, more than 11,000 species of plants from all climes and all parts of the globe are to be seen here.

One of the best botanical libraries in the country, one of the largest herbaria in the United States, laboratories for scientific work and a school for gardening combine the features of a pleasure-ground with the facilities of an institution of research.

The out-of-town garden, which is rapidly being developed, is in one of the most favorable localities in the state for the growing of wild flowers and trees. Here, too, is carried on the propagation of rare and delicate plants away from conditions unfavorable to early plant life incident to a city location.

Besides growing here much material for later exhibit in the city garden, there will gradually be developed an adequate arboretum. In time, this development will probably become the most complete reservation for trees and other native flora in the temperate zone.

Shaw's Garden, with its rare floral beauties, was established as a trust by the will of Henry Shaw, and is entirely maintained by an endowment fund left by him for this purpose. At his death, it passed into the hands of a board of trustees, the original members of which were designated by him. The board is self-perpetuating, with the exception of certain ex-officio members. The immediate direction of the garden is vested in a director appointed by the board of trustees. The garden receives no support from either the city or the state.

The orchid collection of Shaw's Garden is said to be the finest on the American continent. Elaborate conservatories display natural planting of tropical vines, ferns and stately palms; Australian, Philippine and Japanese plants; Italian gardens rare blooming species; desert cacti and similar drought-resisting types, and beautiful specimens of perennials and annuals.

The success of the annual meeting of the *Cactus and Succulent Society* is largely dependent upon the provisions afforded by the city of its choice; the facilities for meeting places, location, accessibility (by rail ,air and bus), hotels, and most important, supervision by hosts who are convention-minded. "Provision is the foundation of hospitality," and St. Louis has everything for the comfort of its guests. The spirit of St. Louis is a spirit of friendliness. The people, the city fathers, the clubs, the merchants, the railroad men are all genuinely gracious in their reception of the convention visitor, who is not a stranger in their midst but a guest to whom is given the very best that a great city can provide.

The subtle art of making people feel at home is the studied concern of St. Louis hotels backed by one of the best hotel associations in the country. Reasonable rates, spacious lobbies, banquet halls and good food with excellent service supports the truth of our axiom that "provision is the foundation of hospitality!"

Geographically speaking, St. Louis meets you half way, and hospitality speaking, St. Louis goes the whole way.

The Cactus Gardens (formerly Fitzpatrick's) Edinburg, Texas, has issued an interesting folder showing Mexican pottery with cactus assortments. Here is the answer to your desire for Mexican pottery.

CONGRATULATIONS FRANK BALTHIS

Society member Frank K. Balthis of Chicago won the $1000 prize awarded by the Macmillan Company for the best garden book by a writer who had never had one published; his book, "Plants in the Home" won first place, among one hundred fifty-nine entries. He is assistant to the chief horticulturist of the Chicago Park District; serves as speaker on lecture courses for garden clubs, is associated with the Men's Garden Club, judges at flower shows, and writes for newspapers and magazines on plant topics. He is president of the Chicago Cactus Society and heads the list of Desert Plant Life editors. His book will be ready in the late spring.

A CURE FOR MEALY BUGS

I feel that it is somewhat out of place for me, (probably the youngest member of your Society) to write offering advice, but I see a Canadian member (Mrs. Craven) asking for help which I can give.

I look back to a time when I was about ready to step out and leave the mealy bugs complete victors in the fight, but now I have no fear of insects of any kind and I feel like spreading the good news. It is true that you cannot wet a mealy bug with water, but a very little wood alcohol makes him very wet indeed. So I buy the very cheapest alcohol and use it lavishly. For spraying, use it pure. A fifteen cent fly sprayer is very effective. Do not be afraid to let it run down into the roots—it will do no harm; even on tender plants like Coleus, etc., it does not burn the foliage.

When making cuttings I at all times submerge them for a few minutes in a bath that is always at hand. It is made by adding 1 cup of soap chips and about 2 cups of alcohol to a pail of water. This bath is always ready, and when I used to be troubled with root mealy bug I just took the plants out of the pots, shook off the soil and put pots and plants in the bath for fifteen minutes, rinsed and repotted. I now have several thousand of the healthiest looking cacti you ever saw and I venture to boast there is not a root nest of mealy bug in my greenhouse.

In 20 years of growing on a fairly large scale, I have never found anything that has given so much satisfaction as my present methods.

W. A. SNIDER.

CONSTRUCTIVE QUESTIONS

Why not an authoritative article in the JOURNAL explaining why the name of the plant long known as *Echeveria simulans* is changed to *E. gilva* on page 93 of *Succulents for the Amateur*. What is *E. simulans?* Illustrate it.

Why is *Stomatium agninum* changed to *Agnirictus agninum?* Who did it? What is the difference between the two genera?

What has the Nomenclature Committee of the Society decided? Has not a single decision worth publishing been made? Have no new facts been brought out, not even one worth publishing? If so let the collectors and dealers know about it, if not a new committee is in order. A. READER.

SUCCULENTS FOR THE AMATEUR—by Brown, White, Sloane, and Reynolds. Edited by Haselton. Written for the beginner, this book introduces one to more than 800 of the best succulents. Clear illustrations show 400 named kinds which include those usually found in amateur collections. 172 pages with 11 color plates of 88 succulents. Paper bound $1.50. Cloth bound $2.00. Postage 3c, foreign 15c.

The following 8 pages are the last installment of the Monograph "Colorado Cacti" by Dr. C. H. Boissevain and Miss Carol Davidson.

FIG. 31. The Italian Garden at Missouri Botanical Gardens

The Missouri Botanical Garden

By LADISLAUS CUTAK
In charge of succulents

One hundred and twenty-two years ago, in the merry month of May, a youthful English lad of 19 stepped off the boat at St. Louis. Along with him went a small stock of cutlery, for he had hopes of establishing a trade in this bustling town on the American frontier. Little did St. Louis realize then the amount of publicity Henry Shaw would give his adopted city.

The youthful Shaw's hardware business grew by leaps and bounds and at the end of twenty years he was able to retire. After amassing a tidy fortune, the dapper merchant made several trips abroad and it is believed that he had visited several beautiful gardens, as travelers are wont to do. In his boyhood days he was greatly fascinated by the majestic trees at Mill Hill School, where he matriculated, and these later voyages must have stimulated his love for flowers, trees and shrubs. After his last voyage abroad, Shaw contemplated a beautiful garden for his country estate on the outskirts of St. Louis. He did not want it to be just an ordinary garden but one with a botanical aspect instead. Thus he had sought the advice of prominent botanists and in time the now famous Missouri Botanical Garden became a reality.

This garden at "Tower Grove," his country estate, was first opened to the public in the year 1860. From that date until Henry Shaw's death in 1889, the Garden was maintained under the personal supervision of its founder and was open to the general public on certain days of the year. At his death the Garden passed into the hands of a Board of Trustees, its original members appointed by Mr. Shaw in his will. The Garden receives no income from city or state, but is supported entirely from funds left by the founder. Within the past few years the income has been seriously reduced by falling interest rates and returns from downtown real estate, the only source of revenue.

In view of the much depleted income, several

activities at the Garden had to be curtailed with necessity. However, citizens of St. Louis and outsiders now have an opportunity to aid in a worthy cause by donating to the "Friends of the Garden" Fund, whereby they take a part in the plan to maintain and develop the Garden and its Arboretum at Gray Summit, in order that it might continue to hold a high place in the botanical and horticultural world.

The Garden is open to the public every day in the year, except New Year's Day and Christmas, and at no time is admission charged. Millions of people have been enthralled by the gorgeous displays of flowers and plants that are housed in spacious conservatories, while the grounds are planted out with permanent displays of ornamental shrubs, herbs and trees. It has often been stated that "you cannot see all of Shaw's Garden on one visit, but must return again and again at different intervals."

Cactus and succulent plant fans, who plan to attend the first national convention, will be intrigued by the gorgeous displays of tropical water lilies in the main pools. All of the lilies on view were hybridized and developed at the Garden and many of them have not as yet been introduced into the trade. The Italian garden, in back of the Main Conservatories, will evoke much comment. It is one of the most popular spots in the Garden during the summer season and probably more pictures are taken here than at any other place. There are about two miles of neatly trimmed hedge and a formal arrangement of flower beds in a precise geometrical design, centered about a statue of Juno, goddess of heaven and earth.

The Linnean House will prove interesting since it is the only remaining greenhouse which was erected in Mr. Shaw's day, being 60 years old. Around it, in three directions, extends the Linnean garden, largely of perennials. Two other historic buildings will fascinate visitors. The Old Residence, original country house of Henry Shaw, dates back to 1849 and the quaint, red-brick Museum, which originally housed the botanical library and herbarium, are located in the south end of the Garden. Some of our meetings will be held within the mellowed walls of the Museum, now fitted up as an auditorium.

The writer and the rest of the personnel cordially extend to the members of the Cactus and Succulent Society a personal invitation to visit the Missouri Botanical Garden, one of the really famous gardens of the world.

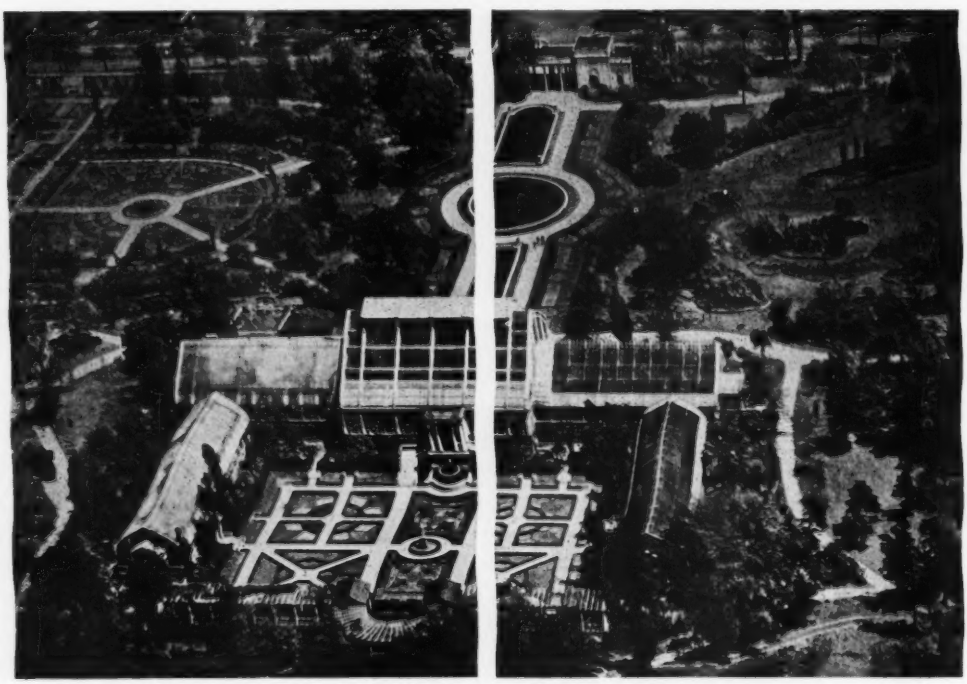

FIG. 32. Air view of central panel of Missouri Gardens.

TO THE EDITOR:

The fact that a number of letters and several visits from out-of-Ohio collectors came as a result of my recent "Letter to the Editor," encourages me to believe that readers of the JOURNAL may welcome further "scribblements" from the undersigned.

Permit me to begin by mildly grumbling at some of our good and esteemed friends, the California dealers in succulent plants. Realizing that the retail end of their business must be a bothersome and profitless undertaking, nevertheless, since they continue to advertise their wares, they should be able to meet accepted standards of merchandising.

My first complaint is delay in making shipments. Undue delay in this respect seems to be a common experience with collectors in this vicinity, as a result of which I find a not very healthy psychological attitude as regards the grower and dealer.

Another matter in which there is room for improvement is in packing plants for shipment. Far too often plants reach the purchaser with roots completely dessicated, necessitating re-rooting, a procedure for which the average fancier is not equipped. As evidence of the needlessness of this handicap, I need only refer to the general practice of wrapping a bit of damp moss around roots of "difficult" specimens in shipment, and to the further fact that almost invariably these come through in excellent condition. Why not, then, resort to this practice with all succulent plants?

Turning from criticism to more congenial topics, I should like to report briefly on the succulent xerophyte collection assembled by the writer, and housed in the Botany Department greenhouses of Ohio State University. This collection, begun about five years ago, now numbers some 500 species, approximately one-third of which are cacti, and the remainder representative of all the plant families in which succulent xerophytes occur. During the past hard winter, for the first time, thermostatically controlled temperatures were available. With a compromise temperature of 50 degrees and judicious use of water, gratifying results were obtained, and ninety-five per cent of the plants emerged from semi-dormancy satisfactorily. Those plants which persist in growth and inflorescence during late autumn, winter, and early spring, found this temperature sufficiently high to enable them to function normally, whereas those from latitudes and seasons corresponding to our own were able to enjoy a degree of dormancy. Epiphytic plants, it may be explained, were excluded from this compromise environment, and accommodated elsewhere. Least favorable results were with the Euphorbia group where, with sixty species, the loss was ten per cent.

Inflorescence, on the whole, has been more than satisfactory and while we do not regard bloom as a paramount achievement, it is, nevertheless, gratifying to find that our wards really are grateful for good care and that they do "say it with flowers."

H. C. SHETRONE, Columbus, Ohio.

LAST CALL FOR PHOTOGRAPHS

This is the last chance to send in your entries and participate in the Society's First National Convention. Do not miss this opportunity to receive National recognition for your ability; send in your photographs immediately. There is still time as the deadline to receive entries for the Photographic Exhibit has been extended to the first of June, in order to give everyone a chance to participate.

Please reread the schedule printed on page 30 of the February JOURNAL, and act immediately.

THOR METHVEN BOCK
8148 Mannix Dr., Hollywood, Calif.

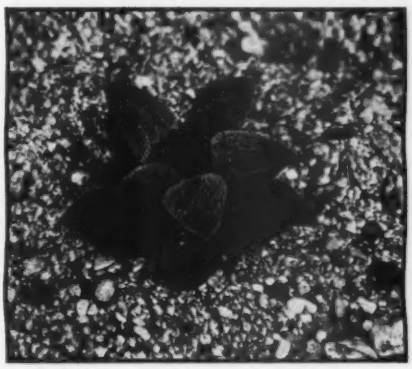

FIG. 33. *Haworthia pygmaea,* Poelln., nat. size.

NOTES ON HAWORTHIAS

By J. R. BROWN

Haworthia pygmaea, Poelln. in Repert. sp. nov. XXVII (1929) 132; XLI (1937) 208; XLIII (1938) 104.

Plant stemless, 3-4 cm. in diam., about 2 cm. high, and with 7-12 leaves. Leaves about 2.5 cm. long, brownish-green, the face somewhat obliquely or almost rectangularly recurved, somewhat cordate-triangular, 10-12 mm. wide and 11-15 mm. long, more or less obtuse, somewhat pellucid and slightly rounded, and rough with crowded, small papillae, with 3-5 lines, back of leaves triangularly convex, somewhat obliquely keeled in the upper part, the keel usually entire, but occasionally with a few, very small teeth, the margins below the faces with minute teeth.

Locality: Type locality, Great Brak River. Also recorded from De Rust, Oudtshoorn Distr.; Beaufort West; Oudtshoorn.

This neat little Haworthia of the sect. *Retusae,* Haw. is near *H. asperula* Haw. from which it differs in its much smaller size and the fewer lines on the leaf faces. It flowers during February and March in So. California. The lines on the leaf faces are somewhat obscure and usually are 3 in number, the middle line being the longest with a shorter line on either side. It gives rise to offsets from the base very slowly and after a great many years forms a cluster. The color is a uniform brownish green, the whitish appearance of the papillae as seen in the photo illustrating this Haworthia, is due to reflected light.

FOR SALE. Unbound copies of *Cactus Journal* for 1935, 1936, 1937, 1938, 1939 and 1940. Complete and in good condition. Privately owned. Must be sold. Make your offer to Box 101, Pasadena.

An Interesting Bryophyllum

By J. R. BROWN

Bryophyllum scandens (Perrier) Berger, in Engler & Prantl, Pflzfam. XVIIIa (1930) 412. *Kalanchoe scandens,* Perrier, in Arch. Bot. Caen. Bull. II (1928) 28.

Plant climbing, glabrous, stems slender, 2-3 mm. in diam., the lower part woody and leafless. Leaves arching, reflexed, linear-lanceolate, 45-80 mm. long, 7-15 mm. wide, 2-3 mm. thick, sessile, amplexicaul, and bearing 5-6 plantlets at the apical teeth.

Inflorescence loose and many flowered, the branches slender; the bracts narrow and fleshy, the pedicels 15-24 mm. long. Calyx broadly-cylindrical, fleshy, 16 mm. long and 12 mm. wide, the lobes deltoid and acute. Corolla dark violet, lightly spotted; lobes 8 mm. long, acute. Stamens attached to the lower part of the corolla tube; anthers oblong, 4 mm. long, blackish-blue, with truncate bases which later become sagittate. Scales somewhat rectangular, about as broad as long. Carpels 6 mm. long, connivent, the slender styles 12 mm. long.

In his notes regarding this plant, H. Perrier de la Bathie states: The branching stem 2-3 m. long, bare and woody in the old parts, bearing higher up arching-reflexed leaves, by the aid of which it catches hold of the shrubs. Leaves generally 2-8 cm. apart, but sometimes closely crowded in little rosettes on short branches which develop only in the dry season, the leaves as well as the young growth being of a blackish-green color. Foliar scars forming a complete ring around the stem. Large inflorescence, much broader than high. Calyx not attached to the corolla, fleshy and persisting on the fruit. Anthers oblong and truncated before dehiscence, rounded and sagittate afterward.

This species is quite common in the dry woods of the Bara Plateau on basalt and limestone, on the two banks of the Fisherenana. It was found again in 1926, on the massif of the Angavo, to the east of Antanimoro, in the basin of the Mandrara. It is therefore a species peculiar to the southern Domain. The specimens from the Angova differ a little from those of the Bara Plateau in that the leaves are shorter and a little broader and the tube of the calyx is a little shorter (6 mm.) than the lobes (8 mm.).

This Bryophyllum from Madagascar is an interesting species, very distinct from other species which are known in cultivation. The thin wiry stems may attain a length of 1 m. in a season's growth and the firmly attached leaves, because of their shape, are well adapted to hold up the stems among the shrubs where they grow. The leaves are variable in length and size of teeth, but are usually about 5 cm. long when grown outdoors in southern California. The number of plantlets borne on the leaves varies, but is commonly 2, which arise at the 2 uppermost teeth. In the hot, dry season, very condensed rosettes are formed on the stems, which may form small inflorescences of a few flowers and flower at the same time as the larger inflorescences.

The flowers, which can hardly be called beautiful, have a certain attraction and when flowering under glass are much more decorative than those outdoors. The entire flower is somewhat shiny, the fleshy dark green calyx becomes suffused with dull red in good light, the grey-green of the corolla shows a fine pattern of dark reddish streaking. The free part of the filaments and the styles are also marked with reddish streaks.

In cultivation the plant requires to be staked and tied up when grown as a pot specimen. Outdoors it may either be allowed to sprawl on the ground or planted close to some shrubs through which it can clamber. It is easily grown from plantlets, stem rosettes, or portions of the stem and a stem cutting will make a tall flowering specimen in a single season. It flowers in southern California during the months of January and February.

An excellent photo of a plant of *Bryophyllum scandens,* as grown indoors, is shown in The National Horticultural Magazine, April, 1939.

FIG. 34

The photos illustrating *Bryophyllum scandens,* show: 1. an inflorescence, nat. size; 2. a part of a stem, x 0.5; 3. a cluster (3) of the condensed rosettes formed in the dry season, nat size; 4. two leaves, nat. size, one showing distinct, serrated apical teeth, the other, an old withering leaf with two plantlets at the apex.

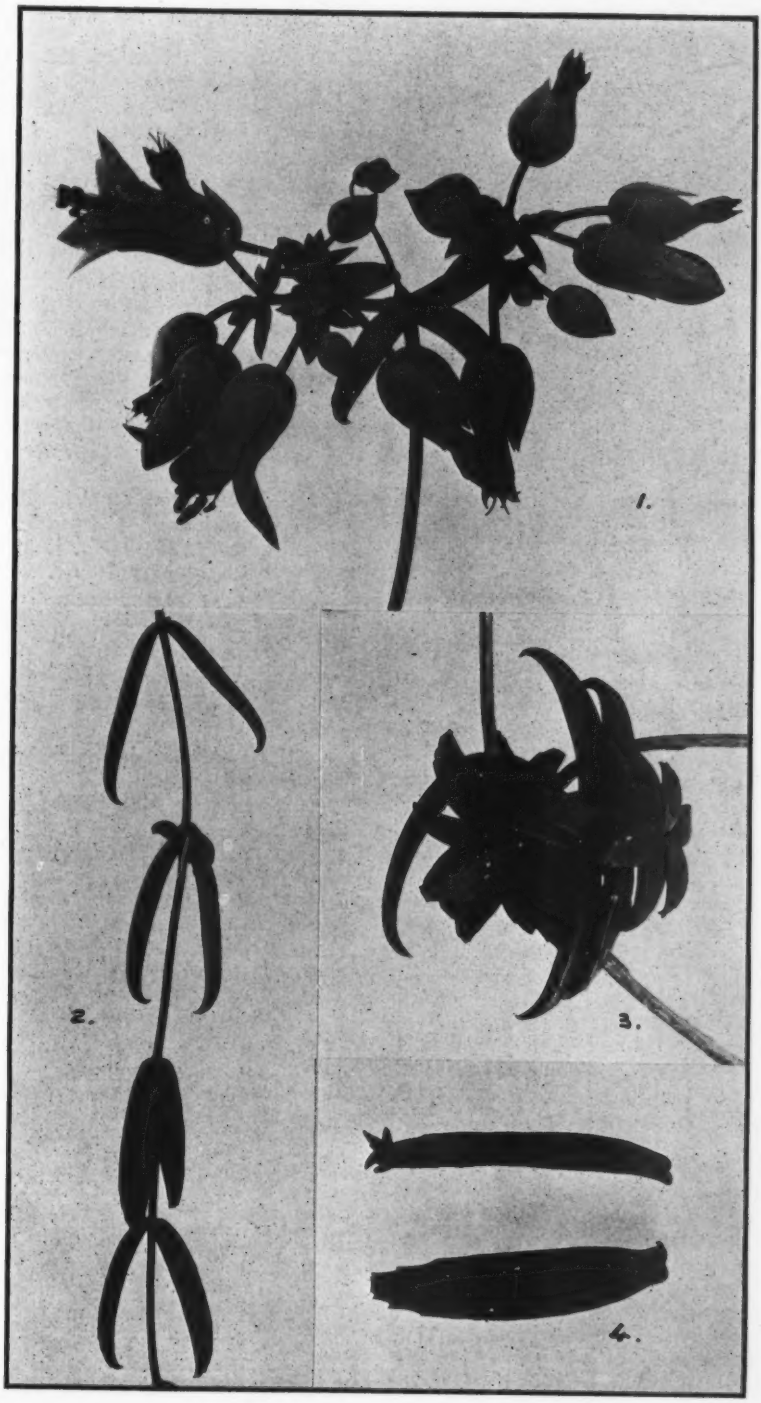
1.
2.
3.
4.

FIG. 35
Mammillaria blossfeldiana var. *shurliana* var. nov.

A NEW VARIETY

By HOWARD E. GATES

Roots fibrous, numerous; plants solitary, occasionally cespitose, branches sub-columnar to 10 cm. high by 3.5 cm. in diameter, apices rounded, skin smooth, dark blue or olive green, slightly cerulate; sap clear, viscid; tubercles round, blunt tipped, dorsally compressed at base, 6 mm. high by 6 mm. in diameter, arranged in spiral rows; axils slightly gray lanate; areoles circular, 2 mm. in diameter, 7 mm. apart, slightly gray or brown felted; radial spines 16-20, 5 mm. long, widely spreading, slightly porrect, stiff, acicular, brown or gray with whitish pulverulence; central spines 3, 6 mm.-1 cm., acicular, black tips shading to brown bases, lower one longest, small hooked with slightly bulbous base, flowers from near top of branches, funnelform, widely spreading, 2 cm. long by 2 cm. wide; tube 8 mm. long, naked, green, scales white; outer perianth segments oblong linear, entire, brownish purple, margins white; inner perianth segments oblong, tips mucronate, entire, rosy carmine, margin white; filaments numerous, reddish purple; anthers orange; style white to pink; stigma lobes 6-8 exserted, long linear, tapering, yellow green; fruit 2 cm. long, 6 mm. in diameter, clavate, orange red; seeds less 1 mm., pyriform to globular, black, smooth.

Type Gates No. 518 collected May 17, 1935, in a small range of granite hills five miles west of Mesquital Ranch, Lower California. (Lat. 28° 30′ N., Long. 113° 55′ W.) Elevation approximately 500 feet. Deposited in The Dudley Herbarium of Stanford University. Climate dry desert, but influenced by frequent fogs drifting in from the coast. Distribution apparently confined to type locality.

The varietal name is ascribed in honor of Mr. E. Shurly, founder of the Cactus & Succulent Society of Great Britain, and at present the most ardent collector and student of the Coryphanthanae in the British Isles.

The author is strongly inclined to consider this a distinct species, but owing to the similarity of flowers and general appearance aside from roots and shape of the plant, the Nomenclature Committee of the Cactus & Succulent Society of America recommends that it only be given varietal rank pending the collection of more material. Judging from the territorial notes with Bodeker's description of Mammillaria blossfeldiana, in which he ascribes it to a dry desert terrain, it is possible the specimens furnished him by Ritter were the variety Shurliana. The live plants furnished to Bodeker by Blossfeld were collected by the present author on the seashore at the type locality of *Neomammillaria blossfeldiana,* Gates.

The chief differences between the two may be summed up as follows:

ROOTS: *M. blossfeldiana* carrot like; var. *shurliana* fibrous.

BODY: *M. blossfeldiana* depressed globular; var. *shurliana* tall.

CENTRAL SPINES: *M. blossfeldiana* 4; var. *shurliana* 3.

FILAMENT COLOR: *M. blossfeldiana* white; var. *shurliana* reddish purple.

SEED: *M. blossfeldiana* pitted; var. *shurliana* smooth.

EDITOR'S NOTE: Mr. Ernest Shurly for whom the new *Mammillaria blossfeldiana* variety *shurliana* is named, is an energetic London business man with cacti as an all consuming hobby.

Since the hectic days of the world war, Mr. Shurly has been associated with the British sign painting industry. In this line, he earned a real reputation as the introducer of new accounting and cost finding systems.

At Mr. Shurly's suburban residence near St. Albans, he has accumulated living specimens of nearly every known member of the Coryphanthanae group. These specimens undergo the most painstaking scrutiny as Mr. Shurly is not satisfied with the present classifications within the genus Mammillaria and is studying plants of all ages in an attempt to discover the key to a better classification.

Mr. Shurly, almost single handed, undertook the successful organization of the Cactus & Succulent Society of Great Britain. British cactitians also thank him as the author of the "Cacti Section" of the *Gardening Encyclopedia.* Our own Society has honored him by election as an Honorary Vice-President.

A FLOWERING JADE TREE

(From THE FLOWER GROWER)

Of the hundreds of thousands of Jade Trees (*Crassula arborescens*) that are grown annually, few, if any, of them flower. Yet a Jade Tree in flower is one of the most beautiful house plants. Early in the winter the buds appear, and the plant is immediately beautiful. If not kept too warm, its bud and flowering period will last six weeks. The flowers are attractive even as they dry.

There are two reasons why this Crassula so seldom flowers. In the first place it takes age. Few of them flower until they are 5 to 10 years old, and they do not blossom without proper care.

If you would like to have a flowering Jade Tree, however, this is possible. Give it a pot with good garden soil and plenty of drainage. Then water it like any other house plant. In the summer bring it outdoors in semi-shade. It will grow like the proverbial green Bay Tree, and before you know it to your pleasure and delight, it will be flowering.

FIG. 36

The Jade Tree, erroneously called the Japanese Rubber Plant, flowers in its old age with a mass of light pink (fading to white) flowers.

A word of warning! Look out for the white mealy bug. At the first appearance use a small tooth or paint brush dipped in a solution of fish oil, soap and water; and be sure to get every particle, for the mealy bug spreads rapidly.

FROM MICHIGAN

May I take the opportunity of making two suggestions:

1. Re proposed supplements. I advise very much against Werdermann's "Brasilien und seine Saulenkakteen;" I read the book carefully when it appeared, and found the style pompous, the information meager, the illustrations poor. The 10-year Cumulative Index would be most valuable.

2. Re desirable articles for the JOURNAL (a) an article on the grafting of Euphorbias. Although grafting cacti is described often, that of succulents, especially all Euphorbias, is quite a trade secret, it seems. I have up to now not been successful, as the latex gums up the sections and prevents healing. Nevertheless, there must be people who can do it, as the pictures in the JOURNAL, Vol. 9, p. 27, 1937, show. (b) An article on or a table of the respective ages of maturity or flowering ages of cactus and of Euphorbias, especially of the first. While many of the spheroid plants like Rebutias, Lobivias, flower within a few years (as everybody knows), this is by no means so for the "Säulenkakteen" which are my favorites. Thus no amateur can ever hope to own a flowering *Ceph. senilis*, even if he buys a $5 seedling, twelve inches tall. But there are evidently some Cephalocerei which do reach maturity not too late; perhaps *C. Hoppenstedtii?* In short: which of the stately columnar cacti, especially of those bearing cephalia or pseudo-cephalia mature and flower sooner and are therefore most desirable?

OTTO LAPORTE.

SOUTHWEST CACTUS GROWERS

Saturday and Sunday, April 18th and 19th, the Southwest Cactus Growers of Los Angeles had a fine Cactus and Succulent Exhibit, under the able direction of Mr. Homer Rush, at the Fifth Annual Exhibit of Minerals and Lapidary Art presented by the Southwest Mineralogists, at Manchester Playground, 8800 South Hoover.

Saturday and Sunday, June 14th and 15th are the dates set for the Seventh Annual "Los Angeles Cactus Show" arranged by the Southwest Cactus Growers and sponsored by the Los Angeles Recreation Department. This, as in the past, will be at the Manchester Playground, 8800 South Hoover Street, Los Angeles. The time: June 14th, 1:00 p. m. to 10:00 p. m., and June 15th, 10:00 a. m. to 6:00 p. m. Seventeen thousand people attended last year's show and more are expected this year. Every one is invited to attend. There is no admission. Some of the finest collections of cacti and other succulents in the country will be on display, all plants named and with some information as to native habitat, color of flowers, etc. The show manager for this year is Mr. George Olin, 138 East 109th Place, Los Angeles. The others on the committee are: Mr. John Akers, Mr. Carl Hoffman and Mr. Edward Taylor.

That the nation is becoming cactus minded is proven by recent articles in *The Saturday Evening Post, Life, American Magazine, and Arizona Highways.*

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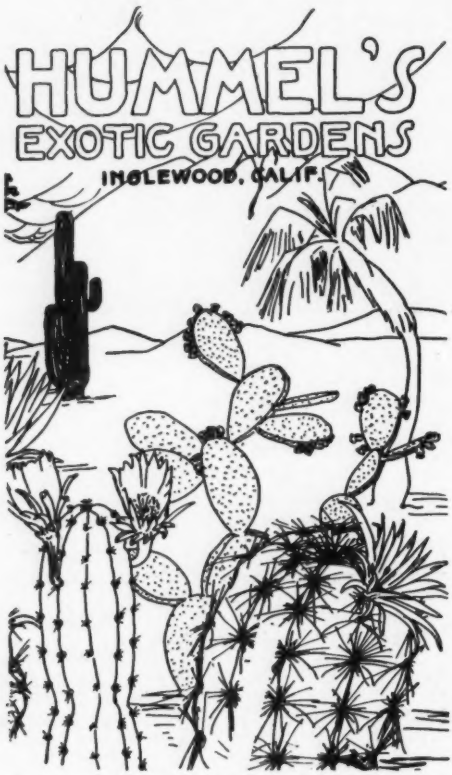

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